

Appl. No.
Amdt. dated
Reply to Office Action of May 4, 2005, and in conjunction
with the RCE filed herewith,

PATENT

REMARKS/ARGUMENTS

Status of the Application

Prior to this amendment, claims 1-8, 13-20, 22-28, 30, and 33-40 were pending in this application. The Examiner has rejected claims 1-8, 13-15, 17-20, 22-28, 30, 33-35 and 37-40 under 35 U.S.C. 103(a). In addition, the Examiner has objected to claims 16 and 36 as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form. In this amendment, Applicant has amended claims 1, 3-7, 13, 16-20, 22, 24-26, 28, 33, 36-40, and cancelled claims 14-15, 23, 30, and 34-35. Claims 8 and 27 remain unchanged by this amendment. Claims 1, 3-8, 13, 16-20, 22, 24-28, 33 and 36-40 remain pending in this application after the filing of this amendment. Applicants submit that no new subject matter has been added by these amendments.

The Claims

Section 103(a) Rejections

The Examiner has rejected independent claims 1 and 22 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Kurihara (JP 10-286301) or Kitamura et al (JP 07-39273) both in view of Peterson (U.S. Patent No. 4,968,489). Applicant respectfully disagrees with the Examiner, and therefore, traverses the rejection. For purposes of compact prosecution, however, Applicant has amended independent claims 1 and 22 to further clarify the invention. Applicant submits that amended claims 1 and 22 now are in condition for allowance for the following reasons.

In the Examiner's rejection, she notes that Kitamura and/or Kurihara disclose apparatus for sterilizing fluids held within a reservoir, but that neither reference teaches a protective coating surrounding an ultraviolet light source. The Examiner then contends that Peterson discloses a light source with a protective coating surrounding it. Specifically, the Examiner states:

"Peterson discloses that it is known in the art to house immersed UV quartz lamp 32, 42 in a protective coating 162, such as a

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UV-transmissive FEP sleeve (col. 2, lines 15-31), in order to protect them from accumulating slime, deposits, and breakage. The coating surrounds the light source 32, 42 in touching proximity thereto. ..."

Firstly, Applicant agrees that Kitamura and/or Kurihara does not disclose a protective coating surrounding an ultraviolet light source. Applicant, however, disagrees that Peterson teaches or discloses the limitations suggested by the Examiner. Part of the problem, I believe, is the different interpretations that the Examiner and Applicant have for the UV light source. The Examiner seems to interpret the light source as a combination of ultraviolet lamp 42 and quartz tube 32. Applicant, however, contends that ultraviolet lamp 42 is the light source, while quartz tube 32 is a completely separate structure which houses lamp 42. Indeed, Peterson makes this clear by stating:

"The ultraviolet lamp 42 is contained within a quartz tube 32 that extends completely through the oxidation chamber and that protrudes beyond opposite walls of the oxidation chamber...

The ultraviolet lamp 42 is supported at its end portion by a cylindrical plug 52 within which the end portion 44 can slide freely, and which itself can slide freely within the quartz tube 32."

(Emphasis added).

The specification makes clear that quartz tube 32 is not part of ultraviolet lamp 42; but in actuality, it is a part of the oxidation chamber. Thus, the FEP disclosed in the Peterson specification is place around tube 32, which is part of the oxidation chamber, not around the ultraviolet lamp, as suggested by the Examiner. Reading Peterson as broadly as possible, however, Applicant can see how the Examiner might have interpreted "light source" as used in the claim to include more than the UV lamp. Thus, Applicant has amended the claims to clarify the claim language. Specifically, Applicant has changed the term "ultraviolet light source" to "ultraviolet lamp" throughout the claims. Further, Applicant has amended independent claims 1 and 22 to further define what Applicant regards as the ultraviolet lamp. For example, claim 1 now recites:

An apparatus for pumping and sterilizing or disinfecting liquid held in a reservoir, comprising:

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a fluid conduit, which is at least partially submerged in the liquid held in the reservoir;
a ultraviolet lamp which is at least partially within the fluid conduit, the ultraviolet lamp comprising:
a casing for holding a gas and a vaporizable material, the casing comprising a body portion and at least one end portion;
at least one electrode positioned within the casing and electrically coupled to a power source, the at least one electrode operable to excite the gas and the vaporizable material;
a protective coating surrounding and in touching proximity with at least the body portion of the casing, the protective coating having properties that allow the germicidal energy to pass; and
an air drive unit coupled to the fluid conduit and adapted to cause a liquid to flow through the fluid conduit and past the portion of the ultraviolet lamp in the fluid conduit, wherein the ultraviolet lamp generates an ultraviolet light which kills microorganisms in the liquid and said fluid conduit.

(Emphasis added).

Based upon these amendments, it is clear that the claim 1 is patentable over the cited references. Specifically, none of the references, including Peterson, disclose an ultraviolet lamp comprising, *inter alia*, "a casing for holding a gas and a vaporizable material, the casing comprising a body portion and at least one end portion; at least one electrode positioned within the casing and electrically coupled to a power source, the at least one electrode operable to excite the gas and the vaporizable material; and a protective coating surrounding and in touching proximity with at least the body portion of the casing" as recited in claim 1. Accordingly, Applicant requests the Examiner to allow claim 1.

With regard to independent claim 22, Applicant submits that it includes similar limitations to claim 1, and thus, is patentable for similar reasons. With regard to dependent claims 3-8, 13, 16-20, 24-28, 33, 36-40, Applicant submits that these claims are allowable as being directed to specific novel substitutes, as well as by depending from allowable parent claims.

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Allowable Subject Matter

The Examiner has indicated that claims 16 and 36 contain allowable subject matter, and would be allowable over the art of record if rewritten in independent form. Applicant agrees with the Examiner and thanks the Examiner for the careful consideration of these claims. Applicant submits that these claims still are allowable for being directed to novel subject matter. In addition given the Amendments to independent claims 1 and 22, Applicant submits that these claims also are allowable by depending from allowable parent claims, which is why Applicant has not rewritten all the allowable claims in independent form at this time.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. Accordingly, Applicant respectfully requests the Examiner to issue a formal Notice of Allowance as soon as possible.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 775-782-4464.

Respectfully submitted,

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